



Work Package 7
Trafficking of goods

7.1

Trafficking of goods: report on the latest statistics, with accessible factsheets

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EXECUTIVE SUMMARY

The FIDUCIA research project (New European Crimes and Trust-based Policy) is co-funded by the European Commission through the Seventh Framework Programme for Research and Development.

The FIDUCIA project will shed light on a number of distinctively “new European” criminal behaviours which have emerged in the last decade as a consequence of developments in technology and the increased mobility of populations across Europe. The central idea behind the project is that public trust in justice is important for social regulation, which is why FIDUCIA proposes a “trust-based” policy model in relation to emerging forms of criminality.

Work Package 7 (WP 7) explores legal, criminological and sociological aspects surrounding the trafficking of goods. The scale of illicit markets is firstly described with the aid of statistical data (D 7.1). Thereafter political, practical and legal measures preventing and tackling the trafficking of goods (D 7.2), the structure of illicit markets (D 7.3) as well as public attitudes (D 7.4) are analysed. Finally, conclusions are provided as to whether criminal policy on the trafficking of goods has to be changed (D 7.5). WP 7 is led by the MPICC with contributions from the BBK, ASI, TEISE and the University of Parma.¹

D 7.1 contains a statistical summary of the prevalence and enforcement of trafficking of goods. The objective of Task 7.1 is to organise the broad range of statistics available at a national and supranational level. Various techniques for assessing the scale of illicit markets are used, e.g., extrapolations from seizure statistics or “mirror statistics” (comparing estimates of illicit commercial activity with statistics on legitimate commercial activity).

Illicit markets are closely connected to a borderless European Union (EU), which in turn is an important precondition for the intra-trade within and economic strength of the EU. As the very nature of illicit markets means that no official data are available, several international, European and national level sources have to be used to estimate their scale. However, such estimations are never certain, especially when coupled with the challenge of obtaining comparable data from several Member States to assess the illicit trade.

The illicit markets in WP 7 include the following products: alcohol, cigarettes, drugs (heroin, cannabis, ecstasy), works of art/antiques and product piracy. The illicit alcohol and tobacco markets seem to share tax evasion and/or tax avoidance similarities. The illicit drug market, in turn, cannot be compared with any legal market. Very little information is available about the illicit market for art and antiques, though little is known about the legal market either. It would seem that product piracy and counterfeiting are among the fastest growing illicit markets.

1. CROSS-BORDER TRADE AND ILLICIT MARKETS IN THE EUROPEAN UNION

Article 1 of the Treaty of Amsterdam (1997) establishes the EU as an area of freedom, security and justice. One of the EU’s most important freedoms is the free movement of goods, including the related promotion of intra-community trade and the abolition of customs tariffs. Under the Ankara Association Agreement (1963), the European Community and Turkey agreed to the establishment of a customs union that came into force in 1996.² It stipulates the free movement of goods between Turkey and the EU as well as the alignment of common customs tariffs and the approximation of customs laws.

1. Special thanks go to Dr Stefano Maffei and Matteo Allodi for their contributions on trafficking of goods.
2. Decision No 1/95 of the EC-Turkey Association Council of 22 December 1995 on implementing the final phase of the Customs Union.

Table 1: EU Export and Import, 2011

GDP at market prices in million € (2010)	12,279,914.7
Exports (2010)	€ 1,349.2 billion (16% of world trade)
Imports (2010)	€ 1,509.1 billion (17.3% of world trade)

SOURCE Eurostat (2011), *External and Intra-EU trade – a statistical yearbook*

Internal and external trade is economically important for the EU. The Union's exports accounted for €1,349.2 billion³ in 2010, which means 16% of world trade, while the import accounted for €1,509.1 billion (17.3% of world trade) (cf. European Commission - eurostat, 2011, pp. 15, 17). Since the Treaty of Maastricht (1993), movements of goods are no longer controlled within the EU, but rather at the external borders. Additionally, national customs authorities can enforce so-called "mobile controls" of people and goods to maintain security (cf. Bundesministerium der Finanzen - Zoll, 2011, p. 11).

It is, however, not only the legal market that has benefited from the abolished controls and political changes, but also traffickers on the illegal markets, whose possibilities to transport illegal goods within the EU have increased. The trafficking of goods can cause enormous damages, e.g., lost tax revenue, distortion of competition in relation to legal markets, loss of income on the legal job market and dangers to people's health (e.g., due to drug abuse or counterfeit medicine). Another problem is the widespread acceptance of several illegal markets and, therewith, a missing sense of guilt for a threat to the rule of law. According to estimates, the largest illegal market is the drug market, followed by the market for counterfeit and pirated products and counterfeit and stolen art (cf. Wehinger, 2011, p. 124).

Trafficking of goods is closely linked to illicit markets.⁴ As such, all types of illegal and illicit trade are to be considered. The phrase "trafficking of goods" used in WP 7 refers to all cross-border criminal activities which involve the illicit trading, selling, dealing, possession or use of/in goods.

2. METHODOLOGY

Collecting comparable data within the EU is challenging. First, traders on the illicit market do not record their activities like on the legal market. Moreover, many Member States prefer their own methods of data collection (cf. von Lampe, 2007, p. 6). Law enforcement agencies sometimes don't publish all their collected data or the database is not publicly assessable for further analysis (cf. Joossens, 2011, p. 1). For example, Lithuanian customs did not give access to specialised data (cf. information from TEISE). Differences in crime definitions, laws, criminal proceedings and crime data recording methods lead to difficulties in statistics. Further problems are caused by different kinds of data collection mechanisms (recorded data and survey-based data). In WP 2, it was apparent that difficulties still exist to obtain reliable and comparable datasets on criminal offences within the EU. In 2012, the European Commission published a Communication about "Measuring Crime in the EU: Statistics Action Plan 2011-2015." The Commission emphasised the indispensability of reliable and comparable statistics within the EU for evidence-based criminal policy (cf. European Commission, 2012, p. 2).

In D 7.1 the data were collected through statistics and surveys. The data collection was limited to quantitative information at an international, European and national level.⁵ A time period of ten years was selected for comparing developments in illegal markets, but the data were not always available for this time period. Although different

3. Throughout this report, billion refers to 1000 million.

4. While the term "illegal" refers to behaviour that is contrary or forbidden by law, especially criminal law, the term "illicit" includes behaviour forbidden by law or other (social) rules (cf. Oxford Dictionary).

5. The national level refers to Germany, Lithuania, the United Kingdom, Turkey (as Partner Countries of Work Package 7) and special contributions from the University of Parma.

data sources are used for assessing the scale of illegal markets, estimations contain limitations and uncertainties and cannot reflect illegal markets in all probability. For the description of illegal markets, 66 international, European and national statistics and surveys were exploited. The combination of official recorded crime data and survey-based data seems to be the best way to assess delinquency and crime, because all statistics, surveys and reports have their limitations. Selection criteria for statistics, reports and surveys were the comparability of data as well as their validity, significance and reliability. For this reason, European databases were, in as far as possible, preferred to national databases. To infer information of the legal market to illegal markets, mirror statistics and extrapolations are used. Seizure statistics present detected cases/articles and enable the illustration of the minimum scale of illegal markets. Mirror statistics – reconstructed on the basis of data concerning legal markets – can only provide an idea of the scale of illegal markets; they cannot reflect the real size of the overall illegal market. Extrapolation, subject to uncertainty, is a process of estimation used when little information is available. Known variables are extended to unknown areas like illegal markets. It depends on the individual product if, and how, the illegal market could be extrapolated. In the case of cigarettes and alcohol, for example, self-reported consumption can be compared with consumption calculated by tax-sales. The calculation of the extrapolations is explained under “Measuring methods” of the individual products.

3. RESULTS “ILLICIT MARKETS”

Trafficking of goods causes enormous damage to legal markets, job markets, tax revenues, customs tariffs, human life and social health. It is assumed that illicit markets are dependent on economic and employment developments (cf. Schneider/Boockmann, 2013, p. 1). While excise duties on goods belong to national revenues, customs tariffs that come from exports outside the EU belong to European revenue. The clandestine nature of illicit markets makes it difficult to determine their scale and structure.

3.1 Alcohol

The alcohol market plays a central role in the EU. A quarter of the world’s alcohol and over the half of the world’s wine production comes from Member States of the EU (cf. Anderson/Baumberg, 2006, p. 47). The Europeans per capita consumption is the highest worldwide (cf. European Commission - Eurobarometer 331, 2010, p. 2).

3.1.1. General remarks on the illicit alcohol market

The area of “trafficking of alcohol” is limited to home-made, illegally produced or smuggled beer, wine, fermented beverages (i.e., those not subject to excise duties),⁶ alcohol surrogates (that are not intended to be consumed by humans) and home-produced alcohol sold within the EU. The European Council defines the following categories of alcohol and alcoholic beverages that are subject to excise duties if consumed by humans:

1. Beer (minimum strength of 0.5% alcohol by volume),
2. Wine (minimum strength of 1.2% alcohol by volume),
3. fermented beverages other than beer and wine, e.g., cider and perry, intermediate products, e.g., port and sherry, (minimum strength of 1.2% alcohol by volume), and
4. ethyl alcohol (i.e., distilled beverages/spirits) (minimum strength of 22% alcohol by volume).

6. Further information about definitions of the mentioned alcohol beverages is available in the Combined Nomenclature which is published in Annex I of the Council Regulation (EEC) N 2658/87 on the tariff and statistical nomenclature and on the Common Customs Tariff. (The Combined Nomenclature is also used in intra-community trade statistics).

Although conditions for charging excise duties on goods are harmonised within the EU in order to ensure the functioning of the internal market,⁷ their amount is still determined by the tax taken by national Member States and differs, for example, in 2006 from € 0.04 per 0.5 litre of beer in Germany to € 0.99 per 0.5 litre of beer in Ireland (cf. Cnossen, 2006, p. 6). Also, value added tax (VAT) – a consumption tax – differs according to alcohol from 15% in Luxembourg to 25% in Sweden.

3.1.2. Measuring methods

To better measure the illicit market of alcohol, the legal market is described through the following indicators: export, import, trade balance, turnover and taxes published by Eurostat as well as (per capita) consumption published by the WHO in “Global Status Report on Alcohol and Health 2011.” Statistical data about the legal market are used to develop mirror statistics. Additionally, seizure statistics of the European Commission – Taxation and Customs Union as well as statistics on non-reported consumption of alcoholic beverages by the WHO are used.

The minimum scale of the illicit market is described by the amount of seized products. For extrapolations of the illicit market of alcoholic beverages, the unreported per capita consumption has to be adjusted by an estimated percentage of legally not tax paid alcoholic beverages. The adjusted number is extrapolated to the population over 15 years. Additionally, the percentage of illicitly consumed alcohol per capita in relation to the reported consumption per capita is calculated. This percentage can be used to calculate the illicit part of the turnover of the legal market as well as the damage to tax revenue.

The WHO per capita consumption statistics are based on production and figures of sales data collected by various sources. They do not include consumption of home-made or illegally imported alcohol (cf. Rehm, p. 966 et. al). Nevertheless, it must be taken into account that mistakes can occur as the representative sample cannot fully reflect reality. The data for per capita consumption of alcohol are presented in litres of pure alcohol to make them comparable.

One common method to measure illicit trade is through a comparison of tax paid sales and individually reported consumption. In the case of the illicit alcohol market, data of individually reported consumption are not available at a European level. The per capita consumption data by the WHO as well as data from the Eurobarometer “EU citizens’ attitudes towards alcohol” are not suitable. The Eurobarometer “EU citizens’ attitudes toward Alcohol” is based on alcohol and public health, including some information about self-reported consumption of alcoholic beverages. The questions concern several attitudes of drinking alcohol, which makes it impossible to get suitable data through an extrapolation of the number of self-reported consumption.

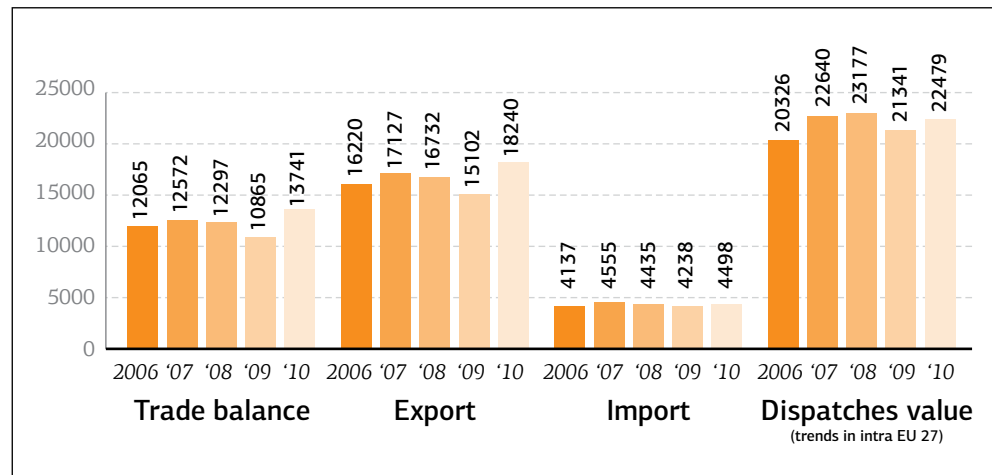
Seizure statistics are also lacking at a European and national level. Trafficked alcoholic beverages can be seized by customs or (border) police if they are counterfeited or an object of a criminal offence. The European Commission – TAXUD has published annual reports on customs enforcement of intellectual property rights. In its reports, alcohol and cigarettes are listed as a part of counterfeiting. But the reports only contain statistical information about detentions made under customs procedure. There is no officially published equivalent about detentions made under (border) police procedure.

Additional difficulties concern the presentation of data. While TAXUD presents the number of cases, number of articles (without information about the scale) and retail value of the original good, the Lithuanian border police have published the scale of articles in litres, whereas it is not said if it “litres” mean pure alcohol or litres of the seized product.

Another problem concerns inaccuracies in collecting data referring to the same

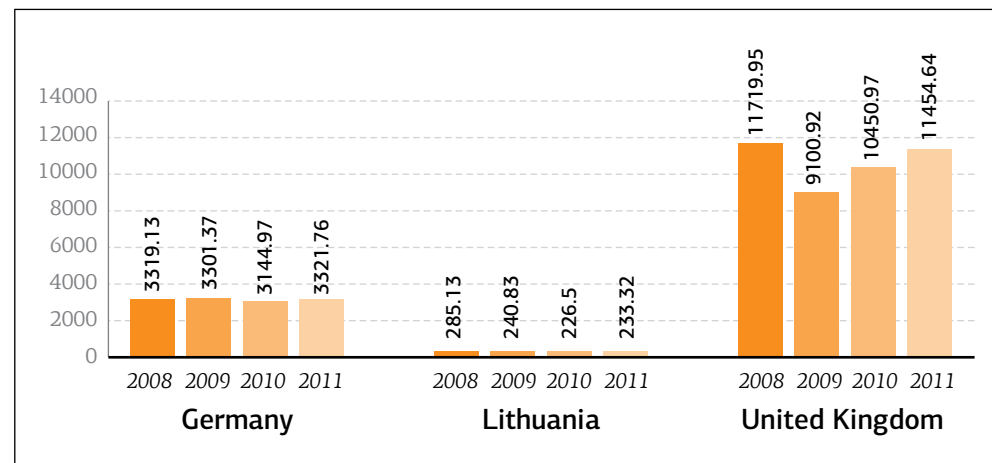
7. See: Council Directive 2008/118/EC.

Table 2: Trends in extra and intra-EU trade in million euros



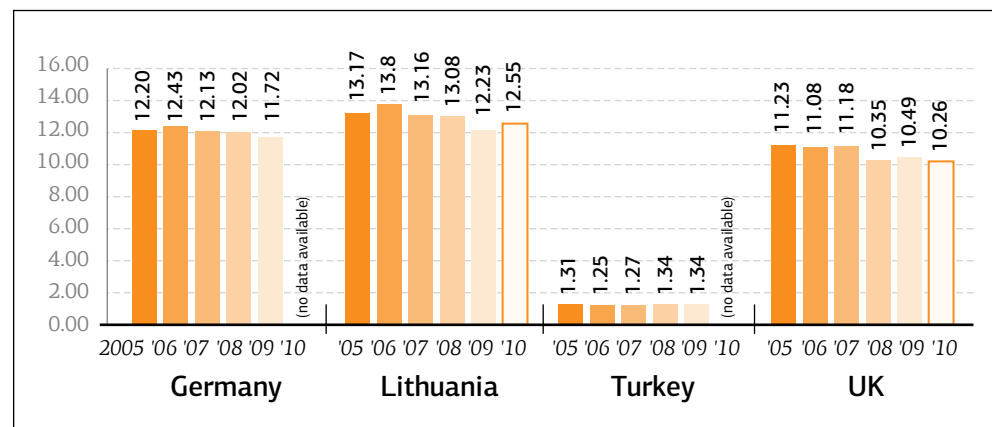
SOURCE European Commission - eurostat, 2011, pp. 54, 55, 57, 79

Table 3: Alcoholic beverages: revenue from taxes on consumption in million euros



SOURCE European Commission - TAXUD, 2012a, p. 5 et seqq.

Table 4: Alcohol: per capita consumption in litres (total)



SOURCE WHO (2013a): Global Health Observatory Data Repository

problem. Both the German Federal Statistical Office and the German “Brauwirtschaft” have published data about consumption of beer in the last 10 years. Although the trend is the same the amount differs slightly.

3.1.3. Statistical description

Legal market

The European Union’s trade balance, export, import and intra-EU dispatches of beverages have remained relatively stable. Nearly four times more beverages are exported than imported (in 2010: export: €18,240 million, import: €4,498 million). The dispatches of intra-European trade account for an average of €22,000 million.

The same nearly stable development appears relating to the revenue from taxes on consumption of alcoholic beverages. The average revenue of the United Kingdom between 2008 and 2011 accounts for approximately €11,000 million, the average tax revenue of Lithuania accounts for €250 million and of Germany it accounts for €3,000 million. In 2006, the turnover concerning alcoholic beverages⁸ accounted for €90,894 million (cf. European Commission - eurostat, 2009, p. 109).

Consumption

The per-capita consumption, measured by the WHO or national offices, is an important indicator to extrapolate estimations. To get comparable data, the recorded per-capita consumption by the WHO are used.

According to the WHO, the total adult per capita (APC):

“is defined as the total (sum of recorded APC average for 2003-2005 and unrecorded APC for 2005) amount of alcohol consumed per adult (15+ years) over a calendar year, in litres of pure alcohol. Recorded alcohol consumption refers to official statistics (production, import, export, and sales or taxation data)” (WHO, 2013a, Levels of Consumption).

The per capita consumption of alcohol within the four selected countries has decreased slightly. In 2009 the per capita consumption accounted for 11.72 litres in Germany, 12.23 litres in Lithuania, 1.34 litres in Turkey and 10.49 litres in the UK.

Referring to the WHO’s statistics from 2005, it would appear that nearly 22% of the total consumed alcohol beverages in Europe were unreported. That is (visible in Table 4) 1 litre (7.81%) of pure alcohol in Germany, 3 litres (19.96%) in Lithuania, 1,5 litres (52.26%) in Turkey and 1,7 litres (12.72%) in the United Kingdom in 2005 (WHO, 2013a, Levels of consumption). The WHO defines the number of unrecorded APC consumption as the amount of alcohol which is not taxed and is outside the usual system of governmental control. The number of tourists per year is considered and deducted from the country’s recorded APC. To get the amount of unrecorded APC consumption, the WHO converts survey questions on consumption of unrecorded alcohol into estimates per year of unrecorded APC.

8. Alcoholic beverages include: distilled potable alcoholic beverages, production of ethyl alcohol from fermented materials, wines, cider and other fruit wine, other non-distilled fermented beverages, beer.

“In countries where survey based estimates exceeded the recorded consumption, unrecorded was calculated as total consumption estimated from survey minus recorded APC. In some countries, unrecorded is estimated based on confiscated alcohol confiscated by customs or police” (WHO, 2013a, Unrecorded per capita consumption).

*Seizure***Table 5: Seizures of European Customs Authorities, Alcohol**

	2009 ⁹	2010 ¹⁰	2011 ¹¹
Number of cases	3	9	8
Number of articles	34,495	129,145	74,689
Retails value		693,056	955,580

The annual report on “EU customs enforcement of intellectual property rights” by the European Commission Taxation and Customs Union includes information of national customs authorities. “Cases” represent an interception by customs and cover a certain amount of individual articles. Until 2009, alcoholic beverages were presented together with other foodstuffs. While the number of seized articles decreased from 129,145 to 74,689, the retails value of the original product increased from €693,056 to €955,580 (cf. European Commission - TAXUD, 2012, p. 22).

Damage

Similar to other illicit markets, it is impossible to quantify the value of the illicit alcohol market. The European High Level Group for Fraud has estimated that €1,500,000,000 was lost to alcohol fraud. It proceeded on the assumption that the intra-European cross-border trade increased due to the fact that travellers transport more alcohol from lower cost countries in the EU (cf. Anderson/Baumberg, 2006, p. 47). Tax can be legally avoided if alcoholic beverages are bought in low-price European country and transported by the individuals themselves to a high-price country (beer in Denmark costs 40% of the price in Sweden) (cf. Anderson/Baumberg, 2006, p. 53).

3.1.4. Surveys, reports

Several studies, surveys and reports refer to health damages of alcohol, but there are only a small number of reports concerning unrecorded consumption of or illicit trade with alcohol beverages at a national, European or international level.

- HM Revenue & Customs calculates the gaps of tax revenues annually based on a detailed and efficient system that considers several uncertainties relating to estimations.¹² In 2012, HM Revenue Customs estimates that “alcohol duty is damaging the legitimate UK alcohol industry resulting in losses of up to £1.2bn (€1.39bn) per annum to the UK taxpayer” (HM Revenue and Customs, 2012, p. 2).
- In their study “Alcohol in Europe,” Anderson and Baumberg (2006) note that the “only existing estimate for the EU15 [that] comes from the European High Level Group on Fraud, which estimated that €1.5bn was lost due to fraud in 1996, equivalent to around 8% of the total alcohol excise duty at the time” (Anderson/Baumberg, 2006, pp. 52, 53).

Furthermore they explain that “any highly-taxed good like alcohol is susceptible to smuggling, but price differences in Europe play little part” (Anderson/Baumberg, 2006, p. 53). According to them, it is difficult to get reliable data about illicit trade on the alcohol market. Lachenmeier (2010) added in the study “Alcohol in the EU” that estimations about the size of the illicit market is lacking, as too are measurements concerning the amount of alcohol consumed (cf. Lachenmeier, 2012, p. 32).

3.1.5. Conclusion

The legal market, measured through the factors “trade balance, export, import, dispatches and excise duties” remains, with some fluctuations, as stable as the average adult per capita consumption in Germany, Lithuania, Turkey and the United Kingdom.

Referring to the number of seized products by custom authorities within the EU, the minimum scale of the illicit alcohol market accounted for 129,145 articles in 2010

9. European Commission - TAXUD, p. 20.

10. European Commission - TAXUD, p. 22.

11. European Commission - TAXUD, p. 22.

12. For more information: HM Revenue and Customs (2012): Methodological annex for measuring tax gaps 2012.

(2011: 74,689 articles) and €693,056 worth of retail value in 2010 (2011:€955,580).

For extrapolation, the mentioned numbers of unrecorded adult per capita consumption of pure alcohol calculated by the WHO are used. They come to 1 litre (7.81%)¹³ in Germany, 3 litres (19.96 %) in Lithuania, 1.5 litres (52.26 %) in Turkey and 1.7 litres (12.72 %) in the United Kingdom and an average of 22% in the EU.

Compared with the average tax revenue from 2008-2011 seen in Table 3, the size of the illicit market can be estimated as follows: approximately €25,553 million in Germany, approximately €49 million in Lithuania and approximately €1,359 million in the United Kingdom. This final estimation for the United Kingdom is quite similar to the estimation of HM Revenue & Customs of €1,390 million (see above).

The illicit alcohol market in the European Union accounts for an average of 22% of the legal market; large differences exist between the individual Member States.

3.2 Cigarettes

Tobacco is considered one of the biggest risk factors for ill-health in the EU (cf. Europäische Kommission GD Health and Consumers, 2009, p. 1). For this reason the EU and its Member States try to reduce the consumption of cigarettes (cf. European Commission, 2007, p. 7). Tax increases are seen as one effective possibility to reduce consumption, while tax evasion and tax avoidance undermine such measures (cf. Joossens/Raw, 2012, p. 232). In 2005, the WHO Framework Convention on Tobacco Control (in the following: WHO FCTC) entered into force. It is an international treaty, “developed in response to the globalisation of the tobacco epidemic” (WHO FCTC, p. V). Referring to Article 15 of the WHO FCTC the illicit trade in tobacco products includes “*smuggling, illicit manufacturing and counterfeiting.*”

3.2.1. General remarks on the illicit tobacco products market

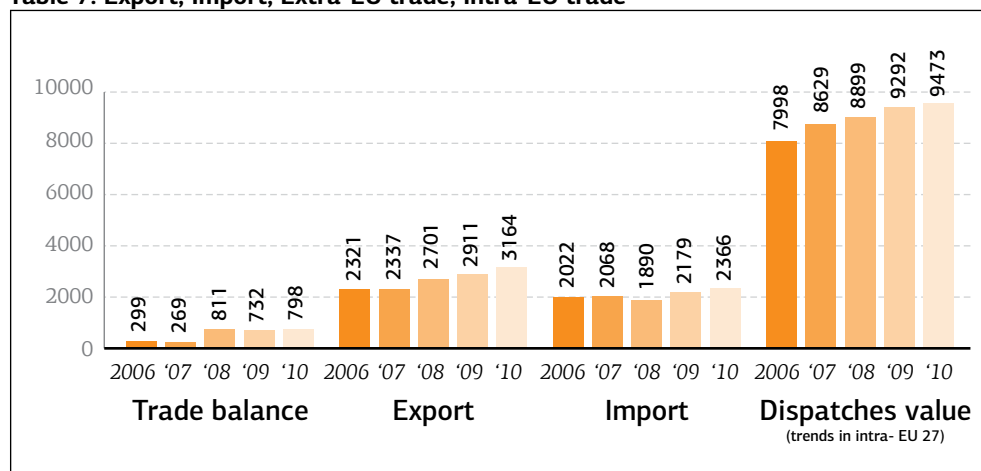
Although the illicit market of cigarettes (boxed and hand-rolled) is generally mentioned, the market is not limited to cigarettes, but includes other tobacco products (e.g., cigars and pipe tobacco), too.

The WHO FCTC defines tobacco products as “products entirely or partly made of the leaf tobacco as raw material which are manufactured to be used for smoking, sucking, chewing or snuffing.” The British Tobacco Product Duty Act (1979) has listed the following products as “tobacco products”: cigarettes, cigars, hand-rolling tobacco, other smoking tobacco, chewing tobacco (Section 1 of Tobacco Products Duty Act). The German “Tabaksteuergesetz” additionally includes products that are similar to tobacco but are produced from other substances. Additional state controls concerning ingredients are also in place. For example, in Germany, maximums for tar, nicotine, carbon monoxide and other substances are regulated. As illicitly traded tobacco products are not controlled, they may exceed these maximum limits.

3.2.2. Measuring methods

As Joossens mentioned in his study “Illicit tobacco trade in Europe issues and solutions,” the data collection as well as the measurement of the illicit tobacco market are difficult (cf. Joossens, 2011, p. 7). He assesses three methods to measure the illicit tobacco trade: 1.) comparison of tax paid sales and self-reported consumption, 2.) surveys of tobacco users’ purchasing behaviour and 3.) observational data collection (e.g., collection of empty cigarette packs) (cf. Joossens, 2011, pp. 1, 11,12). Merriman added that, indeed, reliable statistics about tax paid sales are usually available and published by (tax) authorities. It is, however, difficult to get reliable independent data of tobacco consumption (cf. Merriman, p. 22). With regard to self-reported consumption data, the danger of underestimation has to take into account, as participants may be unwilling

13. Percentage of legal consumption.

Table 7: Export, Import, Extra-EU trade, Intra-EU trade

SOURCE (Export, Import: Eurostat (online data code: tet00038), Extra-EU trade, Intra-EU trade: Eurostat (online data code: ext_lt_intratrd))

Table 8: Revenue from taxes on consumption

(excise duties and similar charges) other than VAT

Country	2008	2009	2010	2011
Germany ¹⁴	13562,75	13357,16	13478,28	14403,67
Lithuania ¹⁵	198,18	199,94	160,49	186,42
UK	11022,43	8569,19	10152,56	11049,43

SOURCE European Commission - TAXUD, 2012b, p. 5 et seqq.

to admit to unhealthy behaviour.

Measuring the illicit tobacco market most closely corresponds to “measuring methods” in the section about the illicit alcohol market. The legal market is described through the following indicators: export, import, trade balance, turnover and tax revenue published by Eurostat. The data concerning the average consumption of smokers are used through Eurobarometer “Attitudes of Europeans towards tobacco.” Seizure statistics of the European Commission – Taxation and Customs Union as well as national customs authorities are used to describe the minimum scale of the illicit tobacco trade. Additionally, results from reports and a study about smuggling cigarettes in Germany (published by Hamburg Institute of International Economics) are considered. The latter study refers to 12,000 empty packages of cigarettes that are collected and analysed monthly to get data on the illicit market.

The unreported number of consumed cigarettes, respectively the percentage of legal markets, is determined through the following indicators: Eurobarometer for per capita consumption and the average calculated estimation of reports to get a percentage of the legal market. Subsequently, a percentage of legally not tax paid tobacco products is deducted. The result is extrapolated to the European population in the case of per capita consumption and compared with tax revenues.

Although cigarettes are usually measured separately, it is not always clearly defined whether only boxed cigarettes are included or also hand-rolled cigarettes. Hand-rolled cigarettes are self-made using fine cut tobacco. In some cases, fine cut tobacco is listed with cigarettes (as self-made cigarettes), for example in Eurobarometer; sometimes it is assessed separately, e.g., consumption overview by the European Commission; sometimes it is placed together with other tobacco products (e.g., customs statistics). Further tobacco products are usually either summarised, e.g., customs statistics, or not mentioned, e.g., consumption overview published by the European Commission.

14. Information about cigars was not available.

15. No further information about cigars.

3.2.3. Statistical description

Trade, tax revenue

Despite of several political action plans to reduce smoking, the European intra-EU dispatches and the export of cigarettes/tobacco products increased by €7,998 million from €2,321 million in 2006 to €9,473 million to €3,164 million in 2010. The import increased slightly from €2,022 million in 2006 to €2,366 million in 2010. The trade balance increased sharply from €299 million in 2006 to €811 million in 2008; is then decreased to €798 million in 2010 (Table 7).

Matching the numbers concerning trends in extra- and intra EU trade, the revenue from taxes on consumption slightly increased in Germany and the United Kingdom, though in the United Kingdom the revenue decreased from 2008 to 2009. In Lithuania, a drop of nearly 8% from 2008 to 2011 can be seen, but the revenue has increased again from 2010 to 2011.

Number consumption

While the consumption of cigarettes within the EU and Lithuania has steadily declined since 2006 from €716 bn (Lithuania €5 bn) in 2006 to €586 bn (Lithuania nearly €3 bn), the consumption in Germany and the United Kingdom has decreased slightly from €93 bn (UK €48 bn) in 2006 to €87 bn (UK €41 bn) in 2011 (Table 9). Conversely, the consumed amount of fine cut tobacco has sharply increased within the EU (around 40%) as well as in Germany, Lithuania and the United Kingdom (Table 10).

The Eurobarometer survey “Attitudes of European’s towards Tobacco” (2012) is a household survey analysing the public attitudes towards tobacco, e.g., smoking behaviour, reasons for stopping smoking. According to the survey, 28% of the European population over 15 years smokes cigarettes, cigars or a pipe (cf. European Commission - Eurobarometer 385, 2012, p. 6). 7,366 smokers within the EU were asked how many cigarettes they smoke each day on average (cf. European Commission - Eurobarometer 385, 2012, p. 21). They consume an average of 14.2 cigarettes per day. Experiences with illicit tobacco trade are not measured in the survey.

Seizure

The annual report on “EU customs enforcement of intellectual property rights” by

Table 9: Releases for consumption of cigarettes 2006-2011

Country	2006	2007	2008	2009	2010	2011
EU	716,846,142	713,756,109	696,722,771	626,584,157	598,905,312	586,221,658
Germany	93,465,500	91,497,320	87,978,850	86,606,770	83,564,540	87,555,780
Lithuania	5,216,700	4,724,283	5,682,676	4,187,810	2,497,415	2,798,971
UK	48,962,000	45,749,000	45,733,000	47,575,000	45,235,000	41,986,000

source: European Commission – TAXUD (n.d.): Releases for consumption of cigarettes and fine cut tobacco)

Table 10: Release for consumption of fine cut tobacco

Country	2006	2007	2008	2009	2010	2011
EU	61,682,438	66,609,055	65,732,939	77,754,896	82,193,242	85,930,379
Germany	18,747,400	22,381,170	21,849,270	24,403,690	25,486,420	27,043,240
Lithuania	12,718	14,678	16,437	19,923	30,136	31,208
UK	3,454,000	3,644,000	4,144,000	5,079,000	5,378,000	5,850,000

SOURCE: European Commission – TAXUD (n.d.): Releases for consumption of cigarettes and fine cut tobacco

Table 11: Seizures of cigarettes and other tobacco products

	Product	2006	2007	2008	2009	2010	2011
Number of cases	Cigarettes	300	418	445	133	107	67
	other tobacco products	n/a	n/a	n/a	7	1	43
	Total	- n/a	n/a	n/a	140	108	110
Number of articles	Cigarettes	73,920,446	27,161,056	41,907,847	22,352,851	34,646,097	20,234,352
	other tobacco products	n/a	n/a	n/a	18,632,187	8,174,565	75,579
	Total	n/a	n/a	n/a	40,985,038	42,820,662	20,309,931
Retail value original goods	Cigarettes	- n/a	n/a	n/a	n/a	124,625,672	87,963,597
	other tobacco products	n/a	n/a	n/a	n/a	1,476,280	1,039,607
	Total	n/a	n/a	n/a	n/a	126101952	89003204

SOURCE European Commission-TAXUD, 2012: p.23

the European Commission TAXUD includes information from national customs authorities. The report contains no retail value of the original goods prior to 2010. From 2006 to 2009, only cigarettes were listed.

However, as seen in Table 11, the number of cases as well as the number of seized articles concerning cigarettes had undergone some fluctuations, though it has declined steadily from 2006 to 2011. In 2011, the lowest number of cases, articles and retail value of all tobacco products was seized. As mentioned above, the reason for the decrease may either be less trafficking of tobacco products or fewer articles are being detected by accident.

3.2.4. Surveys, reports

Surveys and reports relating to tobacco use focus primarily on health risks and measures designed to regulate smoking; very few reports deal with illicit trade in general or the estimation of its size.

A useful analysis about the illicit tobacco trade is conducted by Joossens and Raw. They collected data on estimations of the illicit trade in cigarettes from several sources (e.g., academic articles, government publications, estimates of companies). They estimated that in 2007, 657 billion cigarettes were illicitly traded worldwide: 533 billion in low-income and middle-income countries and 124 billion in high-income countries (cf. Joossens/Raw, 2012, p. 232).

OLAF mentioned in its 2011 summary of achievements that

“although accurate statistics are difficult to obtain, the direct loss in customs revenue as a result of cigarette smuggling in the EU is estimated to amount to more than €10 billion a year” (OLAF, 2012, p. 19).

The EU’s law enforcement agency Europol assumes that the illicit tobacco trade costs the EU about €10 billion in lost tax revenue every year, though no further information is provided on how this assumption was reached (cf. Europol, 2011, p. 15).

- The United Nations Office on Drugs and Crime (UNODC) estimated the share of national tobacco markets that are illicit¹⁶ in the EU¹⁷ at 8% in 2007 (UNODC, 2009).
- In 2012, a report concerning the “Economic analysis of the EU market of tobacco, nicotine and related products” was produced under the Health Programme of the European Commission and conducted by Matrix Insight. The report found that the European cigarette market was 608.8 billion sticks in 2010, corresponding to an overall market value of €121.3 billion (cf. Matrix Insight, 2012, p. 22).¹⁸ Illicit trade is defined as non-duty paid cigarettes. Data was available for 24 Member States of the EU. In 2010, the overall size of non-duty paid cigarettes was 80.5 billion sticks (cf. Matrix Insight, 2012, p. 27). An increase in the illicit trade at a rate of around

16. Recent low end estimates.

17. Without Bulgaria and Romania.

18. The data about the illicit market were collected by Euromonitor (an independent company for market research) and are not available as primary data.

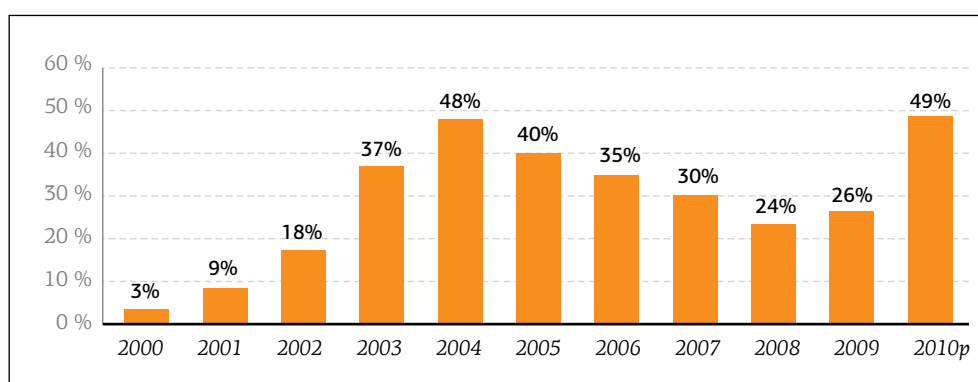
1% per year was expected (cf. Matrix Insight, 2012, p. 28). The illicit cigarettes trade represented 8.25% of total trade for the EU, but there are significant differences between the Member States (e.g. 27.1% for Lithuania and 1% for Denmark).

- Estimates from the U.S. and Europe suggest that cross-border shopping, tourist shopping, duty free sales, and bootlegged cigarettes can account for about three percent of consumption (cf. Merriman, p. 51). Bootlegging tobacco products contains legally bought products in a low-tax country, which are illegally re-sold in a high-tax country (cf. Transcrime, 2012a, p. 8).
- The professional service company KPMG prepared a report on the illicit tobacco market for Philip Morris International. According to their estimation, in 2011 nearly 65.3 bn cigarettes (64.2 bn in 2010) were consumed illegally, which accounted for 10.4% of all cigarettes consumed (cf. Philip Morris International, 2012).
- In 2010, the Hamburg Institute of International Economics (HWWI) published a study about the economic consequences of unpaid cigarette tax. Their study was based on the monthly analysis of 12,000 packages of cigarettes. These empty packages were collected at recycling and disposal points. According to their findings, 20% of cigarettes consumed in Germany had not been taxed.
- The German “Zigarettenverband”¹⁹ assumes that in 2011, 23.5 billion not tax paid cigarettes were smoked. 19.9 billion out of 23.5 billion cigarettes (85%) were bought in another Member State of the EU or as duty-free goods. The association estimates a tax losses of €4.2 billion (for 23,5 billion cigarettes) (cf. Deutscher Zigarettenverband, 2012).
- In their 2012 study on “Plain Package and illicit trade in the UK,” the Joint Research Centre on Transnational Crime published a table about estimates of the size of the UK illicit cigarette market and (in brackets below) the hand-rolled tobacco market in percentage of the total market (see: Table 12). While the four estimations differ noticeably, they all found that illicit trade decreased (Transcrime, 2012b).
- *Smuggled cigarettes in total number of consumed cigarettes in Lithuania:* The share of smuggled cigarettes in Lithuania decreased steadily between 2004 and 2008, it increased slightly in 2009 and, according to estimations, rose dramatically in 2010.

Table 12: Estimations of illicit cigarette trade in the UK

Source	2006	2007	2008	2009
HMRC ²⁰	15 (56)	14 (50)	13 (50)	10 (46)
Euromonitor	17	16.7	16.5	15.9
KPMG	13	15.8	15.6	12.6
TMA ²¹	27 (69)	27 (67)	24 (62)	21 (57)

Table 13: Smuggled cigarettes in total number of consumed cigarettes in Lithuania



SOURCE: Institutas

19. The “DeutscherZigarettenverband” is an association representing cigarette companies and smokers.

20. HM Revenue and Customs.

21. TMA= Tobacco Manufacturers’ Association UK.

3.2.5. Conclusion

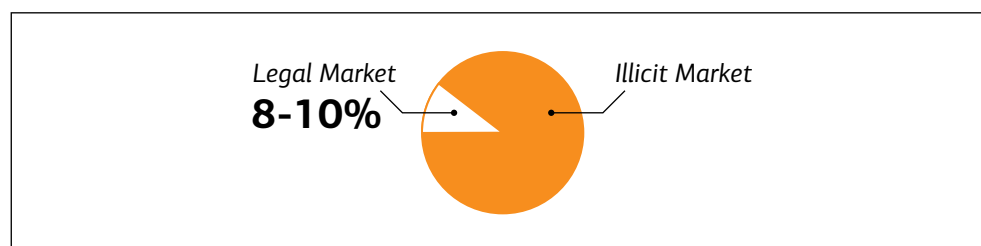
The legal market, measured through indicators like “trade balance, export, import, dispatches, turnover and excise duties” is seen to be slightly increasing, while the number of seized articles as well as their retail value has decreased. Corresponding to the illicit alcohol market, there are no statistical data about offences relating to smuggling of tobacco products available.

Referring to the number of seized products by customs authorities within the EU, the minimum scale of the illicit tobacco market accounted for 42,820,662 articles in 2010 (2011: 20,309,931 articles) which were worth €126,101,952 at retail value (2011: €89,003,204).

For extrapolation purposes, self-reported consumption is used. On average, 28% of the population smoke in the EU; each of these smokers consumes, on average, 14.2 cigarettes per day. This is equal to an approximated amount of 615,025 million smoked cigarettes per year. In 2011, 586,222 million cigarettes were released. The adjusted number (export is nearly 34 % higher than import) accounts for an approximate amount of 386,000 million cigarettes. According to this calculation, 229,000 million (approximately 40%) of cigarettes are smoked without being released in the EU. This number is very high, because it includes the unknown number of cigarettes that are bought in foreign countries and imported legally for private use. There is no suitable number for the EU about legally imported and not tax paid cigarettes. HWWI calculated that in Germany, tax is not paid for nearly 85% of cigarettes smoked. If this percentage is related to the number of cigarettes not released in the EU, the estimation has to be adjusted to 6% (that means 6% of consumed cigarettes are illegally not tax paid). The estimation still includes uncertainties and is based on partially dissimilar data (e.g., some data are from 2012, some from 2011). The estimated scale of 6% fits with most estimations of authorities, organisations and companies.

The estimated average percentage of the illicit cigarette market found by other reports (e.g., UNODC, KPMG, Matrix Insight) is between 8 and 10% of the total market.

Table 14: Legal and illicit tobacco market



3.3 Drugs

Contrary to the other products covered by WP 7, the drug market is a purely illicit market. WP 7 concentrates on heroin (as a hard drug), cannabis (as a soft drug) and ecstasy (as a synthetic drug).

3.3.1. General remarks on the illicit drug markets

According to the WHO, drugs refer in common usage “[...] specifically to psychoactive drugs, and often, even more specifically, to illicit drugs, of which there is non-medical use in addition to any medical use” (WHO, 2013b). The drugs playing a role in this deliverable are defined by the United Nations Office on Drugs and Crime in their report “Get the facts about drugs.”

Heroin is described as an

“addictive drug with pain-killing properties processed from morphine, a naturally occurring substance from the opium poppy plant. Pure heroin is a white powder. Street heroin is usually brownish-white because it is diluted or “cut” with impurities, meaning each dose is different” (UNODC, 2008, p. 8).

Cannabis is

“a tobacco-like greenish or brownish material made of the dried flowering tops and leaves of the cannabis (hemp) plant. Cannabis resin or “hash” is the dried black or brown secretion of the flowering tops of the cannabis plant, which is made into a powder or pressed into slabs or cakes. Cannabis oil or “hash oil” is a liquid extracted from either the dried plant material or the resin” (UNODC, 2008, p. 4).

Ecstasy is

“a psychoactive stimulant, usually made in illegal laboratories. In fact, the term “ecstasy” has evolved and no longer refers to a single substance but a range of substances similar in effect on users. Frequently, any tablet with a logo is now referred to as “ecstasy” regardless of its chemical makeup. While the drug is usually distributed as a tablet, it can also be a powder or capsule. Tablets can have many different shapes and sizes” (UNODC, 2008, p. 7).

3.3.2. Measuring methods

According to Reuter/Trautmann there is no valid method to measure drug trafficking. The only available indicator is seizures of drugs (cf. Reuter/Trautmann, 2009, p. 261). As mentioned above, the significance of seizures statistics is limited, but the minimum scale can be described. The European Monitoring Centre for Drugs and Drug Addicted (EMCDDA) pointed out another problem:

“data on drug seizures relate to all seizures made in each country during the year by all law enforcement agencies (police, customs, national guard, etc.). Caution is required in relation to double-counting that might occur within a country - although it is usually avoided - between various law enforcement agencies” (EMCDDA, 2012).

EMCDDA and Europol confirmed in their study “EU Drugs Market Report” that “systematic and routine information on illicit drug markets and trafficking is still limited” and that there is a lack of sophisticated information systems related to drug supply” (cf. EMCDDA/Europol, 2013, p. 17). A further indicator of developments in illicit trade includes data about recorded offences and offenders. Additionally, reports and data collected by the WHO or the EMCDDA relating to estimates of the scale of the illicit drug trade are used.

3.3.3. Statistical description

Seizure

Table 15 describes the development of the number of seized heroin, cannabis (resin and herbal) and ecstasy in Germany, Lithuania, the United Kingdom and Turkey. The number of seizures is described based on “number of cases.” This factor was preferred to the category “value” to avoid fluctuations in the development due to a small number of

Table 15: Number of drugs seized by cases

Product by cases	Country	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Heroin</i>	UK	15432	12965	11668	14072	13942	14186	13302	12836	10812
	GER	6658	6138	6608	6691	6763	6853	6638	6183	5645
	LIT	132	40	67	99	190	272	282	381	212
	TR	477	401	588	1381	795	1100	1507	2714	4155
	Total	22699	19544	18931	22243	21690	22411	21729	22114	20824
<i>Cannabis (herbal)</i>	UK	41810	36839	43203	76337	110135	138337	145353	144456	139209
	GER	13380	12374	17151	22257	23506	21831	24594	24135	24710
	LIT	75	117	239	158	218	259	249	313	268
	TR	3357	3539	4875	2868	5132	10454	11959	26619	46122
	Total	58622	52869	65468	101620	138991	170881	182155	195523	210309
<i>Cannabis (resin)</i>	UK	62796	60068	37060	43540	34028	32350	35795	24339	18293
	GER	13953	10267	12648	13030	11764	9762	10313	9294	7427
	LIT	10	10	23	24	30	14	19	33	11
	TR	907	522	304	814	234	638	731	8564	16775
	Total	77666	70867	50035	57408	46056	42764	46858	42230	42506
<i>Ecstasy</i>	UK	8342	7577	6573	6944	8595	7609	5218	3724	2535
	GER	3417	2571	3463	3238	2382	2495	2698	1761	1209
	LIT	9	72	98	92	85	114	94	88	23
	TR	154	306	599	1893	874	783	569	411	1371
	Total	11922	10526	10733	12167	11936	11001	8579	5984	5138

SOURCE EMCCDA: statistical bulletin 2012 – drug seizure

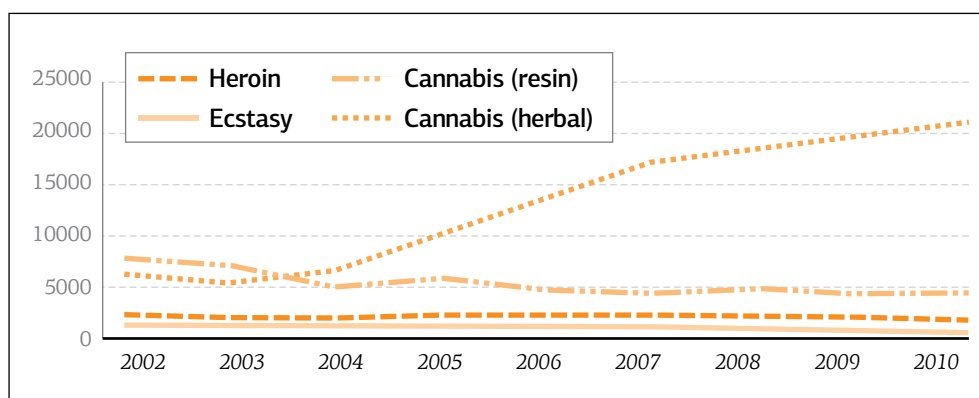
large seizures, for example. The number of seizures of cannabis (herbal) increased dramatically from 2002-2010 and accounted in 2010 for 210,309 (in total). It is the most commonly seized drug. In contrast, the total number of seized cannabis (resin) cases declined rapidly in the corresponding period. The same trend can be noticed within Germany, Lithuania and the United Kingdom, while in Turkey the number of seized cannabis (resin) cases increased strongly. The number of cases concerning seized heroin and seized ecstasy decreased steadily in England and Germany from 2002 to 2010. In Lithuania, seized ecstasy cases decreased, with fluctuations, whereas the number of seized heroin increased until 2009, before it declined rapidly from 88 to 23 cases. In Turkey, the number of seized heroin cases rose steadily, while the number of seized ecstasy cases curved upwards from 2002 to 2009 with a peak in 2005 and then again increased in 2010 from 411 to 1,371 cases. According to EMCCDA and Europol, the reason for the reversal of the European trend in Turkey may be changes in trafficking flows as well as in law enforcement activities (cf. EMCCDA/Europol, 2013, p. 30).

Offences

In its statistics on crime and criminal justice, Eurostat collects the number of criminal offences recorded by the police. According to Eurostat, drug trafficking includes the

“illegal possession, cultivation, production, supplying, transportation, importing, exporting, financing etc. of drug operations which are not solely in connection with personal use” (European Commission-Eurostat, 2012, p. 4)

While the trend for total recorded crime steadily has decreased in the last ten years, the number of drug trafficking offences seems to be stable within the EU (cf. Eurostat:

Table 16: Number of seized drugs**Table 17: Drug trafficking²², recorded cases by police**

Country	2003	2004	2005	2006	2007	2008	2009
Germany	73375	75347	72002	64865	64093	55905	50965
Lithuania	509	711	999	704	765	793	874
UK	34077	33898	35238	48269	38686	40816	42900
Turkey	5036	6720	7550	10508	13649	15366	

SOURCE Eurostat: Statistic in focus 2003-2009)

Statistic in focus 2003-2009). Referring to Table 14 about recorded cases of drug trafficking in Germany, Lithuania, the UK and Turkey, the number of recorded cases in Germany (without external land and sea borders) decreased steadily between 2003 and 2009, while the number in Lithuania, the UK (with external borders) and Turkey (as a neighbour to the EU) increased.

3.3.4. Survey, reports

The drug market is a well analysed research area; it appears in a large amount of surveys and reports usually concentrated on different kinds of drugs, drug addicts, criminal offences related to drug addiction, health consequences, production, drug use, other drug related problems and drug policies. Notwithstanding, access to systematic information on illicit drug markets is still limited (cf. EMCDDA/Europol, 2013, p. 17). Beneficial sources for information on drug trafficking are the used data collected by the WHO or the EMCDDA as well as the report on "Global Illicit Drugs Markets 1998-2007" by Reuter and Trautmann and the "EU Drug Markets Report – a strategic analysis" published by Europol and the EMCDDA in January 2013.

- The EMCDDA estimates that nearly 2500 tons of cannabis are consumed annually within the European Union and Norway. This amount corresponds to an estimated value of the cannabis market at street level between €18 and €30 billion (cf. EMCDDA/Europol, 2013, p. 134).
- Referring to heroin, the EMCDDA observed, as mentioned in their 2012 annual report, less available heroin in supply and therewith fewer consumers (cf. EMCDDA, 2012a).
- Reuter/Trautmann calculated, as accurately as possible, on the basis of surveys and with factors like the estimated "number of users", "price per gram or tablet" or "consumed gram per day" an average retail spending. The results can be used for an approximate characterisation of the illicit drug trade relating to heroin, cannabis and ecstasy. Due the large range of uncertainties, they presented high and low estimates.

22. Referring to Eurostat "Statistics in focus 2003-2009" drug trafficking includes illegal possession, cultivation, production, supplying, transportation, importing, exporting, financing etc. of drug operations which are not solely in connection with personal use (cf. Eurostat: Statistic in focus 2003-2009: 11).

The following tables present the expenditures for cannabis, heroin and ecstasy, circa 2005, issued by Reuter and Trautmann:

Table 18: Size of the retail cannabis market, around 2005

(Euros in millions; MT= metric tons consumed)

Product	Country		Low	Best	High	Best/GDP
Cannabis	Germany	€	974.1	2182.2	4545.2	0.09%
		MT	148.2	332.0	691.5	
	Lithuania	€	13.2	29.6	61.9	0.14%
		MT	1.8	3.9	8.2	
	UK	€	677.0	1414.8	3151.6	0.08%
		MT	201.3	450.4	937.1	

SOURCE: (Reuter/Trautmann, 2009, p. 115)

Table 19: Heroin expenditures by assumed purity at retail level (€ millions), 2005

Product	Country	20%pure	40%pure	60%pure
Heroin	Germany	981.9	491.0	327.3
	Lithuania	67.5	33.7	22.5
	UK	4,606.7	2,303.4	1,535.6

SOURCE: Reuter/Trautmann, 2009, p. 123

Table 20: Ecstasy: expenditures

Product	Country	Retail spending LOW (000s €)	Retail spending HIGH (000s €)
Ecstasy	Germany	99,385	767,002
	Lithuania	1,29	10,594
	UK	152,310	1,250,976

SOURCE: Reuter/Trautmann, 2009, p. 136

The prices that have to be paid for drugs depend on the kind of drug and the country. As a hard drug, heroin is the most expensive drug. Heroin and cannabis are most expensive in Lithuania, where cannabis resin costs three times more than in the United Kingdom.

- As mentioned above, the EMCDDA and Europol launched the “EU Drug Markets Report – a strategic analysis” in January 2013. They collect data on drug offences, drug seizures and drug purity (and potency) as well as drug retail prices in Europe. Table 35 presents an overview about their estimations of users, the number of seizures and the mean retail price within the European Union.

3.3.5. Conclusion

According to seizure statistics, the illicit drug markets for heroin, cannabis (resin) and ecstasy has slightly decreased in the last years within the EU (without Turkey) and account for 16,669 cases of heroin, 25,731 cases of cannabis (resin) and 3,767 cases of ecstasy in 2010. The illicit market on cannabis (herbal) increased and accounted for 164,187 cases in 2010. The number of offences related to drug trafficking has increased slightly within the EU, although in Germany the number of offences has slightly decreased. Concerning the total number of offences, drug offences come to the following percentage: in Germany the share fell from 1.03% in 2006 to 0.84% in 2009. In spite of this result, the percentage of drug offences increased: in Lithuania from 0.93% in 2006 to 1.15% in 2009, in the United Kingdom from 0.81% in 2006 to 0.9% in 2009 and in Turkey from 1.07% in 2006 to 1.56% in 2008.²³

Reuter/Trautmann gave a deep insight into the individual drug markets. Referring to their calculations, the best price for the cannabis market accounts for €2.18 billion in Germany, €29.6 million in Lithuania and €1.41 billion in the United Kingdom,

23. Data for 2009 were not available.

Table 21: Price per gram for cannabis, heroin and ecstasy.

Product	Country	Price per gram in Euros
Cannabis resin	Germany	7.10
	Lithuania	9.9
	UK *	3.3
	Turkey	8.5
Cannabis herbal	Germany	8.7
	Lithuania	10.1
	UK *	3.3
	Turkey	5.0
Heroin**	Germany	36.2
	Lithuania	57.6
	UK	46.7
	Turkey	n/a
Ecstasy***	Germany	6.6
	Lithuania	3.5
	UK	3.5
	Turkey	7.0

* Price of cannabis, both resin and herb

** Heroin undistinguished

*** Price per tablet

SOURCE: (UNODC, 2011, pp. 209, et. seq.)

Table 22: Overview Drug Markets

			Heroin (tonnes)	Cannabis, resin (tonnes)	Cannabis, herbal (tonnes)	Ecstasy (million tablets)
<i>Estimated number of users (million)</i>			1.4	80.5 ^b		11.5 ^b
<i>Seizures^a</i>	<i>Quantities</i>	<i>EU (including Croatia, Norway, Turkey)</i>	5 (12)	490 (514)	90 (146)	4 5.4
	<i>Number</i>	<i>EU (including Croatia, Norway, Turkey)</i>	44 000 (49 000)	348.000 (370.000)	389.000 (439.000)	9.600 (12.500)
<i>Mean retail price (per gram/tablet) in €</i>			24-143	3-18	5-24	4-17

a. Data of the UK are estimated, because they were not available

b. Estimated number of users lifetime in the age of 15-64

SOURCE EMCDDA/Europol, 2013, pp. 25, 55, 95

while on the heroin market €981.9 million in Germany, €67.5 million in Lithuania and €4,606.7 million in the United Kingdom are paid for 20% pure heroin. For ecstasy, an amount is estimated between €99,385,000 and €767,002,000 in Germany, €129,000 to €10,594,000 in Lithuania and €152,310,000 to €1,250,976,000 in the United Kingdom. The estimations through the EMCDDA and Europol refer to the EU in 2011. The heroin market accounts²⁴ for €420 million, the market for cannabis (resin) for €5,145 million, the market for cannabis (herbal) for €1,305 million and the ecstasy market for €42 million. Reuter/Trautmann estimated the ecstasy market at €800 million to €6.3 billion in 2005 (cf. Reuter/Trautmann, 2009, p. 136). The difference can be explained as follows: Although the number of ecstasy related seizures in the EU has decreased slightly, the number of seized tablets has fallen sharply from 13 million tablets in 2005 to 3 million tablets in 2010 (EMCDDA, 2012b, Table SZR 14). Furthermore, the first calculation refers to seized tablets in 2011, while Reuter/Trautmann estimated the number of consumed tablets.

All in all, the scale of the illicit drug market within the EU seemed to be stable (according to offences, seizures (except cannabis herbal) in the last years and amount to several billion Euros in total.

24. For the following extrapolations the mean of the range of means as well as the number of seizures, mentioned in Table 36, were taken to get a summarised overview. Turkey is not included.

3.4 Works of Art/Antiques

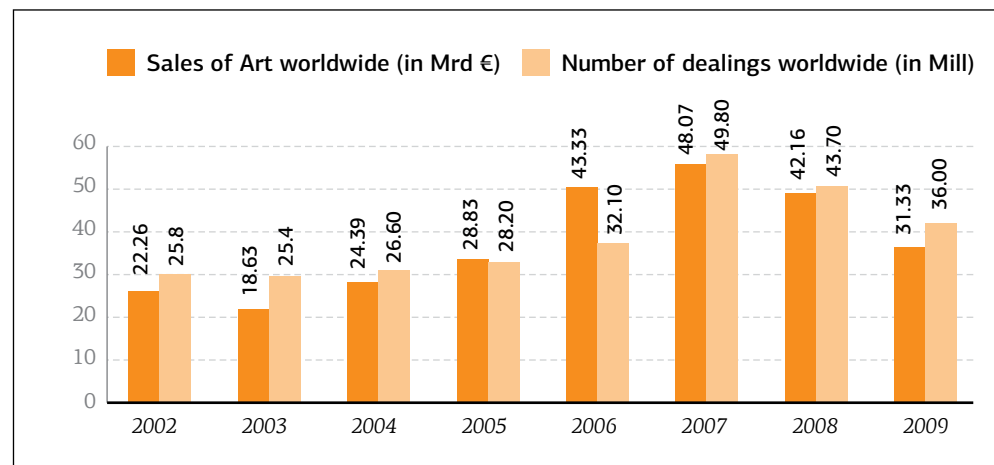
The turnovers and profits for tradespersons involved in the marketplace for works of art and antiques account for several million Euros. The fact that only a limited number of new products enter the marketplace means that competition is high, which in turn seems to be an “invitation” for traffickers to become involved with counterfeit, forged or stolen products.

3.4.1. General remarks on the illicit market of works of art and antiques

The illicit trade in cultural property and works of art is estimated to be one of the largest and most challenging markets (cf. Chonail, et al., 2011, p. VII). WP 7 deals with works of art and antiques as an important part of cultural property.

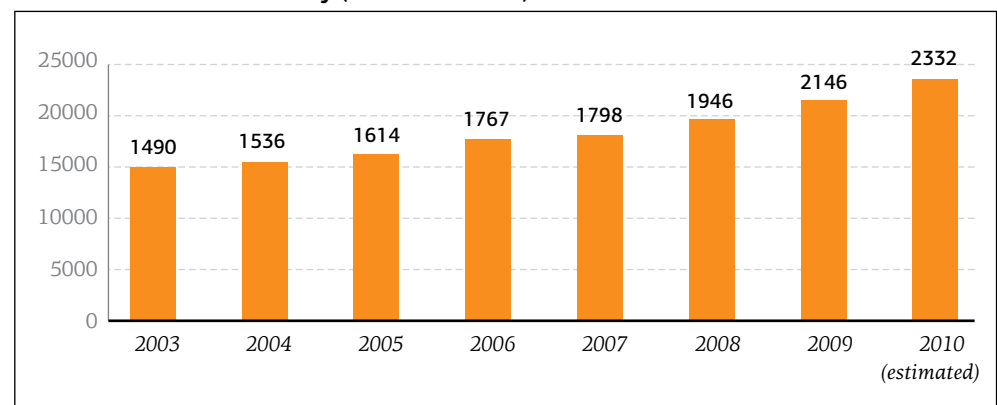
The term “art” is quite extensive and open to interpretation which makes it difficult to define (cf. Kinzig, 2012, p. 124). The current Deliverable is restricted to fine art in order to distinguish it from performing arts. Fine art includes paintings, photographs, prints, drawing and sculptures (cf. Conklin, 1994, p. 2). Antiques, on the other hand, are defined as “a piece of furniture, tableware or similar property, made at a much earlier period than the present” (cf. International Foundation for Art Research, “antiquity”). It is a matter of debate as to whether antiques have to be older than 50 or 100 years. Referring to Annex I of the Council Regulation on the export of cultural goods (EC) N 116/2009, antiques are defined as articles more than 100 years old or special articles between 50 and 100 years.

Table 23: Art market worldwide



SOURCE Mc Andrew, 2010, p. 21

Table 24: Turnover Germany (in million Euros)



SOURCE Söndermann, 2010, p. 127

3.4.2. Measuring methods

As Conklin declares, there is a lack of statistical information about the illicit market of art works and antiques (cf. Barrett, 1996, p. 335). Nevertheless, some data about the legal market, seizures and offences relating to art crime and lost art could be collected. The legal market is assessed through numbers of art worldwide, dealings worldwide, import, export and turnover. Furthermore, databases about lost art guided by Interpol, Lost Arts and German Federal Police Office, are used.

The estimated scale of the illicit market of works of art and antiques can neither be extrapolated nor calculated and presented by mirror statistics. The art market is an autonomous market (cf. Beckert/Rössel, 2004, p. 48). Prices, usually constructed, depend on cultural value judgements rather than commercial calculations. It is difficult to find an indicator for the formation of prices (cf. Beckert/Rössel, 2004, pp. 33, 34). Additionally, Durney/Proulx emphasise that “estimations of the global prevalence, economic impact, and frequency of art crimes have been problematic.” (Durney/Proulx, 2011, p. 127). This viewpoint is seconded by Interpol:

“We do not possess any figures which would enable us to claim that trafficking in cultural property is the third or fourth most common form of trafficking, although this is frequently mentioned at international conferences and in the media. In fact, it is very difficult to gain an exact idea of how many items of cultural property are stolen throughout the world and it is unlikely that there will ever be any accurate statistics” (Interpol, 2013).

Moreover, statistical inaccuracies are caused by unreported cases of illegally transferred cultural property (cf. Anton, 2010, pp. 49, Rn 11).

3.4.3. Statistical description

Legal market

As mentioned above, the commercial value of art differs and depends more on cultural value judgements than economic calculations, while private sales are hidden from view (cf. Beckert/Rössel, 2004, pp. 33, 34). Due to the fact that it was impossible to get data about the European art market, data describing the market worldwide are used.

The total turnover of the art market in the Europe Union was €9,299.3 million in 2008 and €6,766.1 million in 2009. Worldwide, it was €1,8970.9 million in 2008 and €1,2936.7 million in 2009 (cf. Mc Andrew, 2010, p. 21). The European market equates to around 50% of the world market.

The sale of art worldwide increased between 2002 and 2007 from €22.26 bn to €48.7 bn. Experts estimate that the incentive of art market offences has increased due to the fact that turnovers on the art market have not been dented by the worldwide financial crisis (cf. Kinzig, 2012, p. 137). This estimation cannot be completely confirmed by worldwide numbers. The obvious decrease in turnover, sales and number of dealings in 2008 and 2009, probably connected to the worldwide financial crisis, could be seen in some countries. That said, in Germany, for example, turnover has increased (Table 24). However, turnover is only one indicator; the number of sold articles must also be taken into account. Although turnover may decline, it could be that fewer articles are sold for more money, which may also be a reason for traffickers to become involved.

No data or information is available about seized work of arts and antiques within the EU. Statistical data about offences are not generally available. In Germany, for example, theft of art is not reported as theft of art but by the circumstances of the theft. The Turkish National Police Anti-Smuggling and Organised Crime Department report cultural goods and natural goods together (cf. information from ASI). Altogether there were 464 operations conducted in Turkey in 2011 (Table 25). In those operations, 1,083

Table 25: Seizures of Cultural and Natural Assets

Year	Operations	Suspects
2007	349	788
2008	299	761
2009	402	1002
2010	391	821
2011	464	1083

SOURCE: Turkish Anti-Smuggling and Organised Crime Department, 2011, p. 13

Table 26: Overview estimations illegal art market

UNESCO, FBI (2009)	Annual turnover of \$6-8 billion on the illegal market.
RAND (2011)	Illicit trade in stolen art and antiques is worth up to \$6 billion annually.
Interpol (2006, 2011)	Database (containing stolen art reported by 125 countries worldwide): 30,108 pieces (2006), 38,247 pieces (2011).
London Metropolitan Police (2013)	54,000 items of stolen property.
Art Loss Database (2012)	Art Loss Database: 300,000 objects

suspects were captured and 25,273 units of cultural and natural assets were seized (cf. Turkish Anti-Smuggling and Organised Crime Department, 2011, p. 14). In recent years, the number of suspects as well as the number of operations has fluctuated and increased slightly.

Further data about reported cases of trafficking of works of art and antiques are published by the Italian Police. The number of reported cases declined steadily from 1,142 cases in 2006 to 740 cases in 2010 (cf. information by University of Parma). Cases reported to the Carabinieri revealed the same changes from 1,212 cases in 2006 to 817 cases in 2010 (cf. information by University of Parma).

3.4.4. Survey, reports

According to the FBI, Scotland Yard and Interpol, the illicit market for art and antiques is the third largest behind the illicit markets for drugs and weapons. But it is impossible to assess the economic impact of stolen/forged works of art and antiques or to assess how much damage has been caused by the theft of archaeological items (cf. Durney/Proulx, 2011, p. 128). The value of art and antiques can differ between source countries (where the works of art or antiques were stolen) and destination countries. Moreover, the price of art depends on demand on the art market.

- Although it is nearly impossible, UNESCO and the FBI estimate an annual turnover of \$6-8 billion on the illegal market (Ulrich, 2009).
- In their study “Assessing the illegal trade in cultural property from a public policy perspective,” the RAND Corporation estimates that the scale of “the illicit trade in stolen art and antiques is worth up to \$6 billion annually” (Chonail, et al., 2011, p. vii).
- Interpol points to the fact that estimation of the scale is nearly impossible, because theft is not detected and not all countries have statistics containing recorded cases about stolen art (cf. Kinzig, 2012, pp. 130, 131) also: (cf. Anton, 2010, pp. 71, Rn 4). The Interpol database (containing stolen art reported by 125 countries worldwide) counted 30,108 pieces of lost art in 2006 and 38,247 in 2011 (cf. Interpol: Annual Report).
- In 1996, Barrett estimated that the sale of counterfeit art generates tens of millions of dollars a year. According to Barrett, “Thomas Hoving of New York’s Metropolitan Museum of Art stated he believes that 60% of the art he has seen has been faked or

forged. Fakes are reproductions made to resemble existing works of art, and forgeries are original pieces someone attributes to another artist” (cf. Barrett, 1996, p. 342).

- To estimate the damage caused by the illicit market of works of art and antiques, databases containing stolen art or antiques are used. The numbers mentioned below reflect the total number of lost art. The London Metropolitan Police inform that: “The London Stolen Arts Database currently stores details and images of 54,000 items of stolen property.[...]The database includes the following categories: Paintings, furniture, books, maps, manuscripts, carpets, rugs, clocks, watches, coins, medals, glass, ivory, jade, musical instruments, postage stamps, pottery, porcelain, silver, gold textiles and toys and games” (cf. London Metropolitan Police, n.d.). According to their own statements, the Art Loss Database (based in Great Britain) holds 300,000 objects. The database increases by around 10,000 registrations per year (cf. The Art Loss Register, 2013).
- Another reference point that provides an overview about lost art and antiques is that in Iraq, 9,000 out of 15,000 stolen exhibits were still missing when the national museum in Bagdad reopened in 2009 (cf. Ulrich, 2009).

3.4.5. Conclusion

Brodie/Doole/Watson mentioned that the illicit trade in cultural material is hidden from view and therefore it is difficult to quantify the damage or assign the structure (Brodie, et al., 2000, p. 19).

It is not even possible to get reliable data from the legal market. Data on turnover, exports and imports only refer to that provided by auctioneers. There are no indications about private sales and it is a matter of conjecture that there is a big private market. Even museums buy on the private market. Numbers of insurance policies for artworks and antiques are not officially published. As such, the illicit market cannot be extrapolated due to missing reliable data concerning the legal market.

The mentioned databases provide some indicators, though they present only reported stolen art. Not every stolen piece of art or every stolen antique is reported. Sometimes people/museums try to find a solution without the help of authorities or, in the case of antiques, they have no idea about missing pieces (due to un-registered pieces or political trouble in their country). Furthermore, forged works of art are usually not reported in databases about stolen art. It can only be guessed how many works of art are forged, because not all pieces are checked or if they are checked, not necessarily detected. Reported numbers of seizures are also of little use in inferring the scale of illicit markets, as the detection rate is too dependent on the number of operations, the controlled sample and the knowledge of customs authorities.

The number of suspects decreased in Turkey, and there were fewer cases reported to the Italian police between 2006 and 2010. However, as mentioned, the number of reported cases is a weak indicator for assessing the scale due to dependence on law enforcement activities and knowledge.

In conclusion, the scale of the illicit market for works of art and antiques accounts for probably several billion euros. Although its size cannot be defined more exactly, what is clear is that it has a sizable impact on the destruction of human heritage worldwide (cf. Kaiser, 1991, p. 90).

3.5 Product Piracy

Product piracy and counterfeiting are a widespread, well-known worldwide problem with a long history of at least 2,000 years (cf. Chaudhry/Zimmerman, 2009, p. 7). The legal markets of the EU are assessed as a destination area for counterfeit products. Product

piracy and counterfeiting affect the classical market dichotomy of supply and demand. Tackling piracy and counterfeiting is a major challenge for policy makers, law enforcement agencies and the legal market, because product piracy and counterfeiting directly affect the economic growth within the EU and, therewith, the job market. For traffickers, product piracy is attractive. The risk of detection is comparatively low and it enables high profits from low investments (cf. SOCA (Serious Organised Crime Agency), 2013).

Due to the fact that WP 9 is about cybercrime, WP 7 excludes all products that are commonly understood as part of this criminal phenomenon.

3.5.1. General remarks on the illicit product piracy market

Though not legally defined, the term “product piracy” is (cf. Brun, 2009, pp. 2, 3) regularly classed with intellectual property crime, which covers counterfeiting and piracy of goods. While counterfeiting assess the unauthorised imitation of a branded good, piracy is the unauthorised exact copy of an item covered by an intellectual property right (cf. europa.eu, 2010). The United Nations Economic Commission for Europe defines a counterfeit or pirated product as one that “infringes on an intellectual property right” (United Nations Economic Commission for Europe, 2007). For example, product piracy includes the following categories: fashion wear, (luxury) clothing and footwear, pharmaceuticals, automotive parts, electrical items and other manufactured goods (SOCA (Serious Organised Crime Agency), 2013). In turn, counterfeiting and distributing these goods requires different levels of expertise or techniques and attracts criminals of all types.

3.5.2. Measuring methods

The measurement of the scale and effects of the illicit product piracy market is marked by a wide range of estimations. In addition to the above mentioned problem that seizure statistics are the only available indicator, controversy exists concerning the factors which are used to calculate the scale of the problem (cf. Chaudhry/Zimmerman, 2009, p. 9). The damage caused by product piracy and counterfeiting include tax gaps (like value added taxes (VAT)), in some cases excise duties, income taxes (if jobs are lost), corporate income tax, lack of social security contributions (due to reduced jobs), less fees for intellectual property holders as well as less turn over and earnings for companies. But it is nearly impossible to estimate how many jobs are lost because other factors influence the job situation, too. Furthermore, it is extremely difficult to assess the scale of income or corporate income taxes due to the variation of influencing factors.

Nevertheless, also on the illicit market of product piracy first the legal market is described through the indicators “market value” and “turnover”. Additionally seizure statistics as well as surveys and reports are pulled up. It has to be considered that estimates of companies but also authorities involve - next to above mentioned uncertainties and errors of estimations - the danger to be influenced by their aims.

The minimum scale of the illicit market is described by the amount of seized products. Seizure statistics are an important indicator, but their limitations and high margin of error have to be taken into account.

Due to these difficulties, extrapolation is impossible. Mirror statistics can also not be created, as product piracy concerns many different product groups, meaning that the legal market cannot be described in total. Insights can, however, be gained if one concentrates on a special counterfeit product sector, e.g., counterfeit medicine.

3.5.3. Statistical description

Legal Market

The gross domestic product (GDP) is used as an indicator to describe the market value of all officially recognised goods and services produced within a country. Product

Table 27: Detention of IPR by customs, EU

Detention Totals	2010	2011
Cases	79,112	91,245
Articles	103,306,928	114,772,812
Domestic Retail value	1,110,052,402	1,272,354,795

piracy and counterfeiting have a huge impact on the legal market in several sectors. In recent years, the GDP of the EU has remained stable, despite numerous financial crises.

The annual report on “EU customs enforcement of intellectual property rights” by the European Commission (TAXUD) includes information of all national customs authorities of the European Member States. It also includes seizure number concerning alcoholic beverages and tobacco products that are described above. Violations of intellectual property rights are also recorded. As can be seen, the total number of cases, articles and the domestic retail value increased between 2010 and 2011 (Table 27) (European Commission – Report on EU customs enforcement of intellectual property rights, p. 3).

In Table 28, the top categories of seized products are classified by articles, by cases and by value. Almost one out of four seized articles in 2011 were medicines, while referring to cases especially non-sport shoes were seized. The highest value was accounted for by watches (European Commission - TAXUD, 2012) (cf. European Commission, Report on EU customs enforcement of intellectual property rights, p. 13, 14).

Table 28: Top categories of seized products, EU

By articles	By cases	By value
medicines (23.93%)	non-sports shoe (27.94%)	watches (22.73%)
packaging materials (21.21%)	clothing (19.68%)	clothing (9.71%)
cigarettes (17.63%)	bags, wallet, purses (7.53%)	bags, wallets, purses (7.83%)
clothing (3.52%)	electrical household goods (6.37%)	non-sports shoes (6.95%)
mobile phone accessories (2.73%)	watches (5.03%)	Cigarettes (6.91%)
labels, tags, stickers (2.1%)	sport shoes (5.80%)	sport shoes (6.63%).

(EUROPEAN Commission – Report on EU customs enforcement of intellectual property rights, p. 13, 14)

3.5.4. Surveys, reports

Product piracy concerns several kinds of different products and industries. Information about special product sectors is sometimes available, though comprehensive analyses are usually missing. Some countries, like the United Kingdom, publish reports on tax gaps or an annual fraud indicator. The fraud indicator provides an overview about profits generated by piracy, fraud and illicit online sales, though the listed losses are not suitable for product piracy and counterfeiting in general, due to several offences relating to one loss.

- In 2007, the OECD published a report about “The economic impact of counterfeiting and piracy” and emphasised that no quantitative analysis has been carried out to measure counterfeiting and piracy (cf. OECD - Secretary General, 2007, p. 5). According to the report, international trade in counterfeit and pirated products could have been up to US\$200 billion in 2005 (total does not include domestically produced and consumed products and pirated digital products being distributed via the Internet) (cf. OECD – Secretary General, 2007, p. 15). Furthermore, the OECD estimates that international infringements of intellectual property account for more than €150 billion per year (higher than the GDP of more than 150 countries).
- In 2011, the German Engineering Federation published a study concerning product piracy in their product sector. They estimated that about €7.9 billion were lost in

their market due to product piracy (for comparison: with a turnover of €7.9 billion Euros it would be possible to secure 37,000 jobs) (cf. VDMA, 2012, 5).

- BASCAP (Business Action to Stop Counterfeiting and Piracy) estimates that counterfeiting costs the UK €4.1 billion in lost taxes and higher welfare spending, as well as 380,000 short term and 31,000 long term jobs (cf. BASCAP, n.d).

3.5.5. Conclusion

Counterfeiting and infringements of intellectual property not only hurt legitimate commercial interests, but also put the health and safety of European consumers at risk.

In 2010, the GDP for the EU amounted to €12,279 billion. The retail value of seized products on the other hand accounted for €1,110,052,402. The minimum scale of the illicit product piracy and counterfeiting market is nearly 4% of the GDP of Lithuania. Referring to the number of seized products by custom authorities within the EU, the minimum scale of the illicit product piracy market accounted for 103,306,926 articles in 2010 (2011: 114,772,812 articles).

4. CONCLUSION

Two common characteristics of illicit markets are that (1) no official data are available and (2) assessing their scale depends on estimations which are subject to a wide margin of error.

In referring to the validity of the data, one has to be aware of the estimated large field of unreported cases. Consumers of trafficked goods (e.g., drugs, smuggled alcohol, cigarettes or counterfeit products) are generally not interested in uncovering illegal products. Beyond unreported cases, other factors that can affect the extrapolation of statistics concern mistakes in their measurement and the individual selection of indicators. Thus, although the data and estimations in this deliverable are the most useful approximations available, estimating the extent of illicit markets is still a very difficult task.

The illicit markets for tobacco products and alcoholic beverages can be reasonably well estimated. The legal alcohol market is an important market for the EU. A quarter of the world's alcohol and over half of the world's wine production comes from Member States of the EU (cf. Anderson/Baumberg, 2006, p. 47). The minimum scale of the illicit alcohol and tobacco market can be measured through seizure statistics. In 2011, European customs authorities seized 74,689 articles of alcoholic beverages (129,145 in 2010) and 20,309,931 articles of tobacco products (42,820,662 in 2010). A further indicator for assessing the illicit market is the self-reported consumption in relation to reported consumption. Additionally, studies on the illegal cigarettes market refer to samples of analysed empty cigarettes packages. All in all, it is estimated that the illicit alcohol market in the EU account for, on average, 22% of the legal market. The illicit tobacco products market, in turn, amounts to 8 to 10% of the legal European market. Both markets include large differences in the individual Member States.

Although estimations of the drug market are accompanied by uncertainties, several insights enable the estimation of a scale for individual drugs. Regularly used indicators to assess the illicit drugs market are drug seizures, recorded cases by police or surveys relating to drug users, which are used to gain an insight into the number of users, the scale of drug markets and prices. According to estimates of the EMCDDA, the value of the European illicit drug trade accounts for €18-30 billion. According to the estimations of the EMCDDA and Europol, the heroin market amounts to €420 million, the market for cannabis (resin) to €5,145 million, the market for cannabis (herbal) to

€1,305 million and the ecstasy market to €42 million.

As already noted, it is impossible to reliably calculate the estimated size of the illicit market for either works of art and antiques or for product piracy and counterfeiting; there exists too little reliable data and too many uncertainties. Concerning works of art and antiques, even the legal market is nearly impossible to determine, because trades are often hidden from view. All in all, the scale of the illicit works of art and antiques market is approximately several billion euros. Law enforcement agencies like the FBI, Scotland Yard and Interpol actually believe that the illicit art and antiques market is the third largest. Product Piracy and counterfeiting are an increasing problem for legal markets. In 2011, nearly 115 million articles (in 2010: 103 million) were seized by European custom authorities.

In conclusion, although the scale of illicit markets is difficult to assess, it is clear that they account for several billion euros. The European shadow economy is estimated at around 18% of the EU's GDP in 2013 (cf. Schneider, 2013, p. 5).²⁵ The extent of the problem not only damages the European economy (fewer taxes collected, fewer jobs, fewer social security contributions) but also endangers the lives and health of the EU's citizens through the consumption of counterfeit medicine, cigarettes or drugs.

LIST OF TABLES

Table 1: Export and import EU 2011

Table 2: Trends in extra and intra-EU trade

Table 3: Alcoholic beverages: revenue from taxes on consumption in million Euros

Table 4: Alcohol: per capita consumption in litres

Table 5: Seizures of European Customs Authorities, Alcohol, 2009-2011

Table 6: Legal and illicit alcohol market

Table 7: Export, Import, Extra-EU trade, Intra-EU trade

Table 8: Revenue from taxes on consumption (excise duties and similar charges) other than VAT

Table 9: Releases for consumption of cigarettes 2006-2011

Table 10: Release for consumption of fine cut tobacco

Table 11: Seizures of cigarettes and other tobacco products

Table 12: Estimations of illicit cigarette trade in the UK

Table 13: Smuggled cigarettes in total number of consumed cigarettes in Lithuania

Table 14: Legal and illicit tobacco market

Table 15: Number of seized drugs by cases

Table 16: Graph: Number of seized drugs

Table 17: Drug-trafficking recorded cases by police

Table 18: Size of the retail cannabis market, around 2005

Table 19: Heroin expenditures by assumed purity at retail level

Table 20: Ecstasy: expenditures

Table 21: Price per gram for cannabis, heroin and ecstasy

Table 22: Overview Drug Markets

Table 23: Art Market worldwide

Table 24: Turnover Germany

Table 25: Seizures of Cultural and Natural Assets

Table 26: Overview estimations illegal art market

Table 27: Detention of IPR by customs, EU

Table 28: Top categories of seized products, EU

25. According to the "Institut für angewandte Wirtschaftsforschung e.V.", the term "shadow economy" covers not only the trafficking of goods, but also: (1.) illicit employment (working without paying tax and contributions for the social security system), (2.) unlawful employment (jobs done by people without work permit) and (3.) criminal activities (e.g., trafficking of goods, smuggling, human trafficking). To calculate the size and development of the shadow economy, Schneider uses the MIMIC (Multiple Indicators and Multiple Courses) estimation procedure. "Using the MIMIC estimation procedure one gets only relative values and one needs other methods like the currency demand approach, to calibrate the MIMIC values into absolute ones. For a detailed explanation see Friedrich Schneider, editor, Handbook on the Shadow Economy, Cheltenham (UK): Edward Elgar Publishing Company, 2011." (Schneider 2013: 1).

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